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TUBERCULAR MENINGITIS.—LUMBAR PUNCTURE.

TUBERCLE BACILLI IN THE FLUID REMOVED.—PUNCTURE FLUID INOCULATED INTO GUINEA-PIG PRODUCING GENERAL MILIARY TUBERCULOSIS.

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E. B., female, 10 years of age, entered the Montreal General Hospital on May 28th, 1898. She had been out of sorts for three weeks, and though by nature a bright vivacious child had since that date become listless and lost her usual appetite. There had been at first some numbness of the fingers and lips, and in a day or two vomiting and headache. About the fifth day of her indisposition she had a series of general convulsions, recurring during two days and two nights. The bowels were obstinately constipated and moved only by purgatives. Her parents said that after the convulsions she had been delirious for a week, and had then become quite drowsy, had cried out occasionally during her sleep and had become very thin. There was no history of tuberculosis in the family.

Note made on admission:—

Very much emaciated; lies upon her side with the legs drawn up; there is marked retraction of the head, the abdomen is scaphoid, and the *tache cérébrales* is easily produced. The lids are half closed, the right pupil is dilated, but there is no strabismus. The child is stuporose, takes no notice of its surroundings and cries peevishly when roused to to take nourishment. She mutters a good deal but there is no cry. There is retention of urine. Pulse, 108 ; Respirations, 28 ; Temperature, 100° F. The lymphatic glands are not enlarged. There is no evidence of tuberculous disease of the bones or joints.

Respiratory system :—The lungs are clear on percussion and auscultation.

Circulatory system :—The cardiac dulness is within the natural limits and there are no murmurs. The pulse is rapid and small and shows considerable irregularity in rhythm.

Digestive system :—The tongue is moist and coated. Beyond the re-

tracted condition of the abdomen, there is nothing specially noteworthy in the abdomen. The spleen and the mesenteric glands are not palpable.

May, 30th :—The temperature ranges from 98.4° F. to 101° F., the pulse is 140, the respirations 32. Both pupils are widely dilated. No gross changes in the fundi. Lumbar puncture was performed about 1 p. m., and 20 cc, of an almost perfectly clear straw-yellow fluid were obtained. The whole of the fluid removed by puncture was injected subcutaneously into a guinea-pig. The child appeared to be quieter after the puncture. At 5 p. m., she became suddenly cyanosed and remained so for an hour.

May 31st :—A second puncture was made this afternoon between the third and fourth lumbar vertebræ, and 10 cc. of a similar fluid were obtained. This was centrifugated and the sediment was examined microscopically. There were no pus cells found, but a few blood corpuscles and a number of cells resembling lymphocytes, i. e., with large, round, deeply-staining nuclei and very little protoplasm. Cover-slip preparations were made, stained with carbol-fuchsin and decolourized with Gabbet's blue. In three slides five typical tubercle bacilli were found. One hour after the puncture the child became cyanosed, but this passed off as before.

June 1st :—The patient is quite unconscious. Death occurred at 5.15 p. m. An autopsy could not be obtained.

The guinea-pig, into which the cerebrospinal fluid from the first puncture had been injected on May 30th, began to get thin and to show signs of weakness two weeks after the inoculation. It was killed on June 30th, and the post mortem showed an acute miliary tuberculosis. Tubercle bacilli were found in all the organs.